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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,979	02/19/2002	Yong-Sik Ahn	A35012 PCT USA	2662

21003 7590 06/18/2003

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EXAMINER

HAMILTON, CYNTHIA

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 06/18/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,979

Applicant(s)

AHN ET AL.

Examiner

Cynthia Hamilton

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Higuchi et al (JP 09-269409 A as evidenced by 127:332903, Patent Abstracts of Japan Publication Number 09-269409 and attached online machine translation into English of same Japanese document). In [0020-0026] of Higuchi et al as evidenced by the machine translation, the compositions of Higuchi et al anticipate the instant compositions wherein copolymers of acrylic acid, benzyl(meta)acrylate and optionally styrene are the instant -A-B-C- polymers reacted with glycidyl methacrylate to form the instant self curable binder and trimethylolpropane triacrylate is the instant crosslinking compound. [0032-0037] of Higuchi et al as evidenced by the machine translation anticipates the compositions of instant claims 1-16. The photoinitiator used is Irgacure 369 as evidenced by 127:332903.

4. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosoi et al (3,796,578) as evidenced by RN 3253-41-6. The examples of Hosoi et al anticipate the instant

Art Unit: 1752

compositions wherein instant -A-B-C- is made up of the Hosoi et al glycidyl (meth)acrylate adducts of copolymers of styrene and acrylic acid, copolymers (styrene/acrylic acid/n-butyl acrylate), copolymers (styrene/acrylic acid acrylonitrile/methyl methacrylate), copolymers (styrene/acrylic acid acrylonitrile/ethyl acrylate), etc., wherein the instant crosslinkers are such compounds as tetramethylolmethane tetramethacrylate, i.e. pentaerythritol tetramethacrylate according to RN 3253-41-6, at the top of col. 16 in Hosoi et al or triethylene glycol dimethacrylate, hexamethylene glycol dimethacrylate or methylenebis acrylamide all found in Table 7 of Hosoi et al. The compositions of Hosoi et al found in the Abstract anticipate the instant compositions. Other monomers making up the polymers include 2-ethyl hexyl methacrylate and methyl substituted styrene. Thus, with respect to instant claims 1-16, the compositions of Hosoi et al anticipate the instant compositions wherein the molecular weights of their polymers inherently fit into the limits of 1,000 to 100,000 set forth in instant claims 6 and 15. The list of crosslinking compounds listed as useful with the composition set forth in the Abstract of Hosoi is found in the paragraph bridging col. 6-8. The choice of any of these in the composition set forth in the Abstract of Hosoi et al is held immediately envisionable by a worker of ordinary skill in the art.

5. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosoi et al (3,796,578) as evidenced by RN 3253-41-6. The examples of Hosoi et al anticipate the instant compositions wherein instant -A-B-C- is made up of the Hosoi et al glycidyl (meth)acrylate adducts of copolymers of styrene and acrylic acid, copolymers (styrene/acrylic acid/n-butyl acrylate), copolymers (styrene/acrylic acid acrylonitrile/methyl methacrylate), copolymers (styrene/acrylic acid acrylonitrile/ethyl acrylate), etc., wherein the instant crosslinkers are such

Art Unit: 1752

compounds as tetramethylolmethane tetramethacrylate, i.e. pentaerythritol tetramethacrylate according to RN 3253-41-6, at the top of col. 16 in Hosoi et al or triethylene glycol dimethacrylate, hexamethylene glycol dimethacrylate or methylenebis acrylamide all found in Table 7 of Hosoi et al. The compositions of Hosoi et al found in the Abstract anticipate the instant compositions. Other monomers making up the polymers include 2-ethyl hexyl methacrylate and methyl substituted styrene. Thus, with respect to instant claims 1-16, the compositions of Hosoi et al anticipate the instant compositions wherein the molecular weights of their polymers inherently fit into the limits of 1,000 to 100,000 set forth in instant claims 6 and 15. The list of crosslinking compounds listed as useful with the composition set forth in the Abstract of Hosoi is found in the paragraph bridging col. 6-8. The choice of any of these in the composition set forth in the Abstract of Hosoi et al is held immediately envisionable by a worker of ordinary skill in the art. With respect to the variants of Hosoi et al outside the examples, the use of any of the compounds taught by Hosoi et al as their second component would have been obvious to use instead of those in the examples because Hosoi et al taught they were equivalent. The percentage of their use is taught in col. 7 lines 27-31.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1752

8. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, applicants require a polymer of -A-B-C- be the self curable binder resin. In claim 2, B can be 0% of the of said binder. Thus, what is meant by a polymer of -A-B-C- in claims 1-11 is confusing. If claim 2, is dependent upon claim 1 then how can B of a polymer of -A-B-C- not be present? Are applicants trying to claim a binder that is not an adduct of a glycidyl compound? Do A and B and C need to be present at all? Because of this the limits of the claimed invention are confusing. Applicants do this again with respect to the crosslinking compound having at least two ethylenically unsaturated bonds. The crosslinking compound of claim 9 is present from zero to 200 weight % of said binder. Does this mean only the specific crosslinking compounds of claim 9 are so limited to zero or does this mean there can be no crosslinking compound having at least two ethylenically unsaturated bonds in the compositions of claim 9 or 1 after claim 1 says they are present? Thus, again limits of the compositions of instant claims 1-11 are confused by such language.

9. Claims 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Celeste (3,448,089). Examples I-IV of Celeste anticipate the instant compositions in claims 12-16, wherein methyl methacrylate is instant Chemical Formula 3, wherein methacrylic acid is instant Chemical Formula 2 and glycidyl acrylate is instant Chemical Formula 5. All of the examples of Celeste.

10. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Celeste (3,448,089). Celeste in col. 2, lines 24-50, teach the instant copolymer wherein the mers of n are inclusive of vinylacetate, methyl (meth)acrylate, ethyl (meth)acrylate, 2 hydroxyethyl

Art Unit: 1752

methacrylate, n-butyl methacrylate, isobutyl methacrylate and propyl, sec-butyl, tertbutyl, amyl, hexyl, heptyl, etc (meth)acrylate as set forth in col. 4. The need for acid groups to remain after glycidyl adduction for alkali solubility in using alkali aqueous developers is taught in the paragraph bridging col. 3-4. With respect to instant claims 12-16, the combination of any group of mers with respect to n of Celeste with the acid copolymers adducted by glycidyl (meth)acrylate to form alkali aqueous developable photosensitive layers would have been prima facie obvious in view of the teachings of Celeste as a whole. It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

11. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Masaki et al (EP 0 602 252 A1). The compositions of Masaki et al as found in their Examples anticipate the instant compositions. In Masaki et al, see particularly page 6, lines 9-47, page 7, page 13 lines 47-57, page 19, lines 1-20, pages 22-23, C. polymer Binder. The binder is the glycidyl adduct of copolymer of methacrylic acid, methyl methacrylate, and styrene. The molecular weights are held to inherently fall within the broad range set forth in instant claims 6 and 15. The crosslinker present is trimethylolpropane triacrylate or propylene glycol diacrylate.

12. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al (EP 0 602 252 A1). The compositions of Masaki et al as found in their Examples anticipate the instant compositions. In Masaki et al, see particularly page 6, lines 9-47, page 7, page 13 lines 47-57, page 19, lines 1-20, pages 22-23, C. polymer Binder. The binder is the glycidyl adduct of

Art Unit: 1752

copolymer of methacrylic acid, methyl methacrylate, and styrene. The molecular weights are held to inherently fall within the broad range set forth in instant claims 6 and 15. The crosslinker present is trimethylolpropane triacrylate or propylene glycol diacrylate. What is further made obvious by Masaki et al is variance in the copolymer used with respect to the non acid monomer as taught on page 6 which is inclusive of styrene, methyl styrene and a host of alkyl acrylate esters inclusive of ethyl (meth)acrylate, and variance in the photoreactive substance, i.e. the instant crosslinker, as taught on the top of page 7 to include dipentaerythritol hexaacrylate, neopentyl glycol diacrylate, propylene glycol diacrylate, dipentaerythritol monohydroxypentacrylate, 1,3 butylene glycol diacrylate; etc. . It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). With respect to instant claims 1-16, the use of one or more of any of the materials taught equivalent by Masaki et al in the Examples of Masaki et al would have been prima facie obvious use of combining two or more elements for the same use as taught for one.

13. Claims 2-4, 8-13 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kushi et al (5,356,754). Wherein no B is present in the instant composition, claims 1-4 of Kushi et al anticipate the instant invention.

14. Claims 2-4, 8-13 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lipson et al (4,239,849). In Lipson et al, see particularly Examples and claims 1-8 wherein no instant B is present.

Art Unit: 1752

15. Claims 2-4, 6, 8, 12-13, 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchida (4,692,396). In Uchida, see particularly claims 1 and 2 and Examples wherein instant B is not present.

16. Claims 2-4, 8-13, 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Geissler et al (4,495,271). In Geissler et al, see particularly claim 1 and examples wherein B is not present.

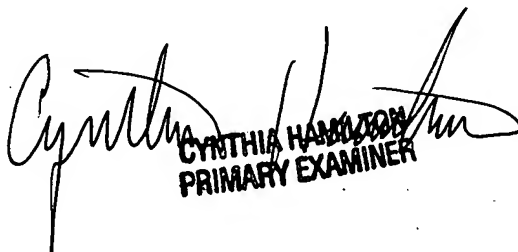
17. Claims 2-4, 6, 8-13, 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwasaki et al (4,629,680). Wherein instant B is not present Iwasaki et al anticipates the instant compositions. In Iwasaki et al see particularly claims 1 and 10 and col. 7, lines 40-66.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cynthia Hamilton whose telephone number is (703) 308-3626. The examiner can normally be reached on Monday-Friday, 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on (703) 308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the 1700 receptionist whose telephone number is (703) 308-0661.

Cynthia Hamilton
June 6, 2003


CYNTHIA HAMILTON
PRIMARY EXAMINER